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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/701,322	11/04/2003	Ki-Sang Kim	5649-840DV	5293
20792	7590	10/24/2006	EXAMINER	
MYERS BIGEL SIBLEY & SAJOVEC			FOX, CHARLES A	
PO BOX 37428			ART UNIT	
RALEIGH, NC 27627			PAPER NUMBER	

3652

DATE MAILED: 10/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/701,322	<b>Applicant(s)</b> KIM, KI-SANG	
	<b>Examiner</b> Charles A. Fox	<b>Art Unit</b> 3652	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 August 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,4-11 and 13-16 is/are pending in the application.
- 4a) Of the above claim(s) 5-9 and 14-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,10,11 and 13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 18, 2006 has been entered.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1,2,4,10,11 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Independent claims 1 and 10 have newly added limitations dealing with a "common wafer container". It is not clear if this means a standard type container (for example a FOUP) or if the container to be gripped is common to both gripping arms. In the art rejections below the common wafer carrier is treated as being common to both arms as each arm individually is not capable of supporting a wafer carrier without the other arm. The dependent claims also have the same ambiguity due to their dependence upon claims 1 or 10. Clarification is required.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 3652

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,4,10 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent 11-145243 in view of Howells et al. Regarding claims 1 and 10 Japanese Patent 11-145243 teaches a device for conveying wafer cassettes along a plurality of wafer processing devices aligned along an axis, said device comprising:

- a horizontal conveyor (111) positioned adjacent to and below the plurality of process devices;

- a vertical conveyor (112') for raising the wafer cassette from the horizontal conveyor to the process device's load ports;

- said vertical conveyor forming a hollow housing and further comprising gripping arms (71) which extend towards one another and hold a common wafer carrier;

- a controller for automatically moving the various components of the overall system automatically;

wherein the conveyors operate within a clean area. Japanese Patent 11-145243 does not teach using screw actuators for the vertical lift device or explicitly teach hollow housings at each process device. Howells et al. US 6,183,186 teaches a process device (12) with a loading station (10) comprising:

- a housing;

- an inlet in said housing for accepting transported wafer cassettes;

- an elevator (20) for lifting and lowering wafer cassettes (16);

Art Unit: 3652

It would have been obvious to one of ordinary skill in the art, at the time of invention to provide the device taught by Japanese Patent 11-145243 with individual load housings as taught by Howells et al. in order to decrease the amount of clean area the production facility will require, thereby reducing operating expense for the overall facility.

Claims 2 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent 11-145243 and Howells et al. as applied to claims 1 and 10 above, and further in view of Narisawa. Japanese Patent 11-145243 teaches the limitations of claims 1 and 10 as above, it does not teach the horizontal conveyor as being a roller conveyor. Narisawa US 5,904,239 teaches a roller conveyor (12) for use in a clean room. It would have been obvious to one of ordinary skill in the art, at the time of invention to provide the device taught by Japanese Patent 11-145243 and Howells et al. with a conveyor as taught by Narisawa in order to decrease the amount of debris generated by the conveyor, thus making it easier to maintain a high cleanliness level in the transport area.

#### ***Response to Amendment***

The amendments to the claims filed on June 22, 2006 have been entered into the record.

#### ***Response to Arguments***

Applicant's arguments with respect to claims 1 and 10 have been considered but are moot in view of the new ground(s) of rejection. Regarding the carrying of a common

Art Unit: 3652

wafer cassette the Japanese publication (11-145243) teaches this limitation. As such the new limitations are taught by the cited prior art.

The prior art made of record and not relied upon, but considered pertinent to applicant's disclosure is Berger et al. 1991, Focke et al. 1996 and Japanese publication 7-137,837. All three of the newly cited references teach a horizontal conveyor that transfers objects to a vertical conveyor with opposed supports for holding the conveyor. While they may not teach lifting a wafer carrier they do encompass the general inventive concept of the instant invention and thus are relevant.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles A. Fox whose telephone number is 571-272-6923. The examiner can normally be reached between 7:00-4:00 Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eileen D. Lillis can be reached at 571-272-6928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3652

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*Charles A. Fox* 10-19-06  
Charles A. Fox  
Examiner  
Art Unit 3652